

GRACE

Polyfibron Division

W.R. Grace & Co.  
55 Hayden Avenue  
Lexington, Mass. 02173

(617) 861-6600

November 17, 1989

Attn: CAIR Reporting Office  
Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street  
Washington, D.C. 20460

Subject: Emerson & Cuming Inc.  
59 Walpole Street  
Canton, MA 02021

Dear CAIR Reporting Officer:

On August 30, 1989, we received notification from CASCHEM of Bayonne, New Jersey, that we purchased a prepolymer containing Toluene diisocyanate (CAS 584-84-9) during the CAIR coverage period February 8, 1987 to February 5, 1989 (Att: 1). We have therefore prepared the CAIR report to comply with the EPA reporting requirement (Att: 2).

Do not hesitate to contact me if you have any questions.

Sincerely,

*Rosanne M. Joyce*  
Rosanne M. Joyce  
Environmental Engineer

RMJ:mm

Attachments: (2)

cc: D.E. Kronenberg  
G.W. Rowe  
C.G. Wallington  
P.J. Desilets

89 NOV 20 PM 3:09  
OFFICE

# CasChem

August 30, 1989

CasChem, Inc.  
40 Avenue A  
Bayonne, NJ 07002  
(201) 858-7900

Emerson & Cuming, Inc/  
W R Grace & Company  
59 Walpole St  
Materials Unit  
Canton, MA 02121  
Attn: Purchasing Agent

Dear CasChem Customer

As part of CasChem's continuing efforts to keep our customers informed of new regulatory developments, we are alerting you to possible reporting obligations under EPA's Comprehensive Assessment Information Rule (CAIR). This rule establishes specific reporting requirements for manufacturing importers and processors of nineteen chemicals, including Toluene Diisocyanates (TDI) and TDI containing products. If you have used TDI or TDI containing products within the past two years, you may be a "processor" under this rule and must submit a CAIR form to EPA unless you meet either of the exemptions described below:

1. Processors with total parent company sales of less than \$4 million.
2. Facilities with parent company total sales of less than \$40 million and production/importation of TDI at that site is less than 100,000 lbs.

Our records indicate that during the CAIR coverage period February 8, 1987 to February 5, 1989 you have purchased CasChem's Vorite 63 (Product No. 72026) which contains 14% TDI.

The Society of the Plastics Industry, Inc is offering valuable assistance to processors of TDI products who must file the CAIR form. Attached is information published by the SPI that may be of use to you. In addition, they have set up a "hot line" (800-331-0621) if you need further information.

If we can be of any further assistance, please call Michael Fowler of our Environmental Affairs Department at 201-858-7918 or myself.

Sincerely yours,

Ted Kroplinski  
Technical Manager

TK/as  
Enc: SPI CAIR Bulletin



Form Approved  
OMB No. 2010-0019  
Approval Expires 12-31-89

 EPA-OTS



0006360360

90-900000022

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**Comprehensive Assessment Information Rule**  
**REPORTING FORM**

2,4-Toluene diisocyanate  
CAS 584-84-9

When completed, send this form to:

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460  
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: \_\_\_\_\_

Document  
Control Number: \_\_\_\_\_

Docket Number: \_\_\_\_\_

## PART A GENERAL REPORTING INFORMATION

[ ] a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. .... [0][0][0][5][8][4]-[8][4]-[9]

(i) Chemical name as listed in the rule ..... Not Applicable (NA)

(ii) Name of mixture as listed in the rule .... NA

(iii) Trade name as listed in the rule ..... NA

Name of category as listed in the rule ..... Not applicable

CAS No. of chemical substance ..... [ ] [ ] [ ] [ ] [ ] [ ] - [ ] [ ] - [ ]

Name of chemical substance .....

**CBI**    Manufacturer ..... 1

☐ Importer ..... 2

Processor ..... 3

X/P manufacturer reporting for customer who is a processor ..... 4

X/P processor reporting for customer who is a processor ..... 5

3

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI

Yes ..... ☒ Go to question 1.04

☐

No ..... ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI

Yes ..... ①

☐

No ..... 2

b. Check the appropriate box below: Not Applicable.

☐ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s) .... VORITE 63

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI

Trade name ..... VORITE 63

☐

Is the trade name product a mixture? Circle the appropriate response.

Yes ..... ①

No ..... 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI

☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

Craig G. Wallington  
NAME

CG Wallington  
SIGNATURE

11/17/89  
DATE SIGNED

Plant Manager  
TITLE

( 619 ) 821 - 4250  
TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

- 1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

CBI

☐

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule." Not Applicable.

_____ NAME	_____ SIGNATURE	_____ DATE SIGNED
_____ TITLE	(_____)_____ TELEPHONE NO.	_____ DATE OF PREVIOUS SUBMISSION

- 1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI

☐

"My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

Not Applicable

_____ NAME	_____ SIGNATURE	_____ DATE SIGNED
_____ TITLE	(_____)_____ TELEPHONE NO.	

☐ Mark (X) this box if you attach a continuation sheet.



### 1.11 Parent Company Identification

CBI Name [W][R][G][R][A][C][E][ ][I][ ][C][O][ ][-][ ][C][O][N][N][ ][ ][ ][ ][ ]  
[ ] Address [1][1][1][4][ ][A][V][E][ ][O][F][ ][T][H][E][ ][A][M][E][R][I][C][A][S][ ][ ]  
Street  
[N][E][W][ ][Y][O][R][K][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]  
City  
[NY] [10036]--[ ][ ][ ][ ]  
State Zip

Dun &amp; Bradstreet Number .....[0][0]-[1][3][6]-[7][8][4][6]

## 1.12 Technical Contact

CBI Name [R][O][S][A][N][N][E] [M] [J][O][Y][C][E]  
[ ] Title [E][N][V][I][R][O][N][M][E][N][T][A][L] [E][N][G][I][N][E][E][R]  
Address [5][5] [H][A][Y][D][E][N] [A][V][E][N][U][E]  
Street  
[L][E][X][I][N][G][T][O][N]  
City  
[MA] [02173]--  
State Zip

Telephone Number ..... [6] [1] [7] - [8] [6] [1] - [6] [6] [0] [0]

1.13 This reporting year is from ..... [1][0] [8][7] to [0][9] [8][8]  
Mo. Year Mo. Year

☐ Mark (X) this box if you attach a continuation sheet.



NOT APPLICABLE

Street

Citv

State

Zip

Mo.

Day

Year

Telephone Number .....[ ][ ]-[ ][ ]-[ ][ ][ ]

NOT APPLICABLE.

Street

City

State

**Zip**

Mo.

      
Dav

Year

Telephone Number .....( ) ( ) ( ) -( ) ( ) ( ) -( ) ( ) ( ) ( )

8

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

☐ Classification Quantity (kg/yr)

Manufactured ..... 0

Imported ..... 0

Processed (include quantity repackaged) ..... 79.54

Of that quantity manufactured or imported, report that quantity:

In storage at the beginning of the reporting year ..... Not Applicable

For on-site use or processing ..... ↓

For direct commercial distribution (including export) ..... ↓

In storage at the end of the reporting year ..... ↓

Of that quantity processed, report that quantity:

In storage at the beginning of the reporting year ..... 0

Processed as a reactant (chemical producer) ..... 0

Processed as a formulation component (mixture producer) ..... 0

Processed as an article component (article producer) ..... 33.27

Repackaged (including export) ..... 46.27

In storage at the end of the reporting year ..... 0

☐ Mark (X) this box if you attach a continuation sheet.

PART C IDENTIFICATION OF MIXTURES

1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

CBI

☐

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% $\pm$ 0.5%)
Toluene Diisocyanate, 2,4-	Cas Chem	414
Prepolymer	Cas Chem	786
		Total 100%

☐ Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☐ Year ending ..... [0][9] [8][7]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 115.0 kg

Year ending ..... [0][9] [8][6]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 48 kg

Year ending ..... [0][9] [8][5]  
Mo. Year

Quantity manufactured ..... 0 kg

Quantity imported ..... 0 kg

Quantity processed ..... 5.1 kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types. NOT APPLICABLE,

CBI

☐ Continuous process ..... 1  
Semicontinuous process ..... 2  
Batch process ..... 3

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all appropriate process types.

☐

Continuous process ..... 1

Semicontinuous process ..... 2

Batch process ..... 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed substance. (If you are a batch manufacturer or batch processor, do not answer this question.) NOT APPLICABLE.

☐

Manufacturing capacity ..... kg/yr

Processing capacity ..... kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance manufactured, imported, or processed at any time after your current corporate fiscal year, estimate the increase or decrease based upon the reporting year's production volume.

☐

	Manufacturing Quantity (kg)	Importing Quantity (kg)	Processing Quantity (kg)
Amount of increase	NA	NA	NA
Amount of decrease	NA	NA	NA

☐ Mark (X) this box if you attach a continuation sheet.

2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☐

Days/Year      Average  
Hours/Day

Process Type #1 (The process type involving the largest quantity of the listed substance.)

Manufactured .....	<u>NA</u>	<u>NA</u>
Processed .....	<u>29</u>	<u>19</u>

Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)

Manufactured .....	<u>NA</u>	<u>NA</u>
Processed .....	<u>13</u>	<u>1</u>

Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)

Manufactured .....	<u>NA</u>	<u>NA</u>
Processed .....	<u>NA</u>	<u>NA</u>

2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

☐

Maximum daily inventory .....	<u>6</u>	kg
Average monthly inventory .....	<u>10</u>	kg

*Averaged for six months only.....  
No usage for latter six months.*

☐ Mark (X) this box if you attach a continuation sheet.

2.11 **Related Product Types** -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

NOT APPLICABLE

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity<sup>1</sup></u>	<u>Concentration (%) (specify ± % precision)</u>	<u>Source of By-products, Coproducts, or Impurities</u>
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct

C = Coproduct

I = Impurity

☐ Mark (X) this box if you attach a continuation sheet.

2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to ☐ the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or <u>Processed</u>	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
X	100	100	CS
X	100	100	CS
X	100	100	CS

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>FLOATATION BLOCK</u>

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.



- 2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)
- CBI
- ☐

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or <u>Processed</u>	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
X	100	100	CS

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>FLOATATION BLOCKS</u>

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity. NOT APPLICABLE. TDI DOES NOT EXIST IN FIRE FORM IN THE PRODUCT.

[ ]

a.	b.	c.	d.
Product Type <sup>1</sup>	Final Product's Physical Form <sup>2</sup>	Average % Composition of Listed Substance in Final Product	Type of End-Users <sup>3</sup>
X	F4	414	CS

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>FLOATATION BLOCK</u>

<sup>2</sup>Use the following codes to designate the final product's physical form:

A = Gas	F2 = Crystalline solid
B = Liquid	F3 = Granules
C = Aqueous solution	F4 = Other solid
D = Paste	G = Gel
E = Slurry	H = Other (specify) _____
F1 = Powder	

<sup>3</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

[ ] Mark (X) this box if you attach a continuation sheet.

2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the CBI listed substance to off-site customers.

☐ Truck ..... ①  
Railcar ..... 2  
Barge, Vessel ..... 3  
Pipeline ..... 4  
Plane ..... 5  
Other (specify) ..... 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers or prepared by your customers during the reporting year for use under each category of end use listed (i-iv).

☐

Category of End Use

i. Industrial Products

Chemical or mixture ..... NA kg/yr  
Article ..... NA kg/yr

ii. Commercial Products

Chemical or mixture ..... NA kg/yr  
Article ..... NA kg/yr

iii. Consumer Products

Chemical or mixture ..... 46.27 kg/yr  
Article ..... 33.27 kg/yr

iv. Other

Distribution (excluding export) ..... NA kg/yr  
Export ..... NA kg/yr  
Quantity of substance consumed as reactant ..... NA kg/yr  
Unknown customer uses ..... NA kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

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SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

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PART A GENERAL DATA

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- 3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.  
CBI The average price is the market value of the product that was traded for the listed substance.

☐

<u>Source of Supply</u>	<u>Quantity (kg)</u>	<u>Average Price (\$/kg)</u>
The listed substance was manufactured on-site.	<u>NA</u>	<u>NA</u>
The listed substance was transferred from a different company site.	<u>NA</u>	<u>NA</u>
The listed substance was purchased directly from a manufacturer or importer.	<u>NA</u>	<u>NA</u>
The listed substance was purchased from a distributor or repackager.	<u>146.3</u>	<u>\$ 1.00/kg</u>
The listed substance was purchased from a mixture producer.	<u>NA</u>	<u>NA</u>

- 
- 3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

CBI

☐

Truck ..... 1  
Railcar .....  
Barge, Vessel ..... 3  
Pipeline ..... 4  
Plane ..... 5  
Other (specify) \_\_\_\_\_ 6

---

☐ Mark (X) this box if you attach a continuation sheet.

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3.03 CBI a. Circle all applicable containers used to transport the listed substance to your facility.

- ☐ Bags ..... 1
- Boxes ..... 2
- Free standing tank cylinders ..... 3
- Tank rail cars ..... 4
- Hopper cars ..... 5
- Tank trucks ..... 6
- Hopper trucks ..... 7
- Drums ..... ⑧
- Pipeline ..... 9
- Other (specify) \_\_\_\_\_ ..... 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks. N/A

Tank cylinders ..... \_\_\_\_\_ mmHg

Tank rail cars ..... \_\_\_\_\_ mmHg

Tank trucks ..... \_\_\_\_\_ mmHg

☐ Mark (X) this box if you attach a continuation sheet.

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**PART B RAW MATERIAL IN THE FORM OF A MIXTURE**

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3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

CBI

☐

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify <math>\pm</math> % precision)</u>	<u>Amount Processed (kg/yr)</u>
<u>VORITE 63</u>	<u>CasChem, Inc.</u>	<u>14</u>	<u>1024.1</u>
<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
<u>                    </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>

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☐ Mark (X) this box if you attach a continuation sheet.

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**PART C RAW MATERIAL VOLUME**

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**3.05** State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify $\pm$ % precision)
Class I chemical	<u>79.54</u>	<u>414</u>
	<u>                    </u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>
Class II chemical	<u>                    </u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>
Polymer	<u>                    </u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>
	<u>                    </u>	<u>                    </u>

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☐ Mark (X) this box if you attach a continuation sheet.

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## SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

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### General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

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### PART A PHYSICAL/CHEMICAL DATA SUMMARY

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- 4.01 Specify the percent purity for the three major<sup>1</sup> technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI

☐

	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	<u>NA</u> % purity	<u>NA</u> % purity	<u>~100</u> % purity
Technical grade #2	<u>NA</u> % purity	<u>NA</u> % purity	<u>NA</u> % purity
Technical grade #3	<u>NA</u> % purity	<u>NA</u> % purity	<u>NA</u> % purity

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<sup>1</sup>Major = Greatest quantity of listed substance manufactured, imported or processed.

- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes ..... 1

No ..... 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company ..... 1

Another source ..... 2

---

☐ Mark (X) this box if you attach a continuation sheet.

---



4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

Yes ..... 1  
 No ..... (2)

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

[ ]

Activity		Physical State				
		Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	NA	1	2	3	4	5
Import	NA	1	2	3	4	5
Process		1	2	(3)	4	5
Store		1	2	(3)	4	5
Dispose	NA	1	2	3	4	5
Transport		1	2	(3)	4	5

[ ] Mark (X) this box if you attach a continuation sheet.

4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles  $\geq 10$  microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

Not Applicable

<u>Physical State</u>		<u>Manufacture</u>	<u>Import</u>	<u>Process</u>	<u>Store</u>	<u>Dispose</u>	<u>Transport</u>
Dust	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Powder	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Fiber	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____
Aerosol	<1 micron	_____	_____	_____	_____	_____	_____
	1 to <5 microns	_____	_____	_____	_____	_____	_____
	5 to <10 microns	_____	_____	_____	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

4.09 Extinguishing Media -- Identify (Y/N/NA/UK) all known methods for extinguishing flames caused by each product type which contains the listed substance. (Refer to the instructions for the definition of Y, N, NA and UK.)

<u>Extinguishing Media</u>	<u>Product Types Containing the Listed Substance<sup>1</sup></u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
Water	_____	_____	_____	_____	_____	_____
Foam	_____	_____	_____	_____	_____	_____
CO <sub>2</sub>	_____	_____	_____	_____	_____	_____
Dry chemical (e.g., sodium bicarbonate)	_____	_____	_____	_____	_____	_____
Halogenated hydrocarbon (e.g., carbon tetrachloride, methyl bromide)	_____	_____	_____	_____	_____	_____
Other (specify) _____	_____	_____	_____	_____	_____	_____

Indicate if hazard information/MSDS has been submitted in lieu of response by circling the appropriate response.

Yes ..... ①  
 No ..... 2

<sup>1</sup>Identify the product types listed under each column (1-6) in the following table:

<u>Product Type No.</u>	<u>Product Type Identity</u>
1	_____
2	_____
3	_____
4	_____
5	_____
6	_____

☐ Mark (X) this box if you attach a continuation sheet.

\*\*\* List a Material Safety Data Sheet \*\*\*

Material Safety Data Sheet

Emergency Phone 201-858-7964  
CHEMTREC 800-424-9300

Section I: Identification

CasChem, Inc.  
40 Avenue A  
Bayonne, N.J. 07002

Trade Name: Vorite 63  
Product Code: 72026  
Product Class: Prepolymer  
Chemical Abstract Number: 70955-23-6

HMIS/NFPA Hazard Identification System:

Health: 3                      Reactivity: 1  
Flammability: 1              Protective Code: G

Threshold Limit Value (TLV):  
See section II.

Type <cr> to continue

Section II: Hazardous Ingredients

Ingredient Name	Chemical Abstracts Number	Percent By Wght.	TLV (OSHA/ACGIH) PPM	Mg/M	Vapor Pressure mmHg
Toluene Diisocyanate (TDI)		< 14	0.005	0.04 TWA	88' ACGIH
On NTP list and IARC Monograph 584-84-9			0.02	.15 STEL	

Type <cr> to continue

Section III: Physical Data

Boiling Range: N/A  
Vapor Density: Heavier than air  
Evaporation Rate: Slower than ether  
% Volatile by Volume: Nil  
Density (lb/gal): 9.2  
Appearance:

Section IV: Fire and Explosion Hazard Data

Extinguishing Media: foam, carbon dioxide, dry chemical, halon 1211.  
Special Fire Fighting Procedures/Unusual Fire or Explosion Hazards:  
Full fire fighter protective clothing which leaves no skin surfaces exposed and self-contained breathing apparatus are to be used. Highly toxic vapors may be generated by thermal decomposition or combustion. Isocyanates, when reacted with water generate carbon dioxide gas. Hot isocyanate may react vigorously with water. When heated, sealed containers may rupture violently.

#### Section V: Reactivity Data

-----

Stability: stable

Conditions to avoid: avoid contact with oxidizing agents, water, amines and alcohols.

Hazardous Decomposition Products: products of incomplete combustion can include CO, CO<sub>2</sub>, HCN, NO<sub>x</sub> and TDI vapors (see section VI)

Polymerization: may occur if in contact with water or other materials that react with isocyanates.

Type <cr> to continue

-----

#### Effects of over exposure:

##### Acute:

Inhalation of the vapors may cause severe irritation of the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Isocyanates can cause skin irritation, reddening, rash, or blistering. Liquid aerosols or vapors are severely irritating to the eyes and can cause pain, tearing, reddening, and swelling. If ingested, may result in irritation and corrosive action in the mouth, stomach tissues, and digestive tract.

##### Chronic:

Inhalation: As a result of repeated overexposures or single large dose, certain individuals may develop isocyanate sensitization which will cause them to react to a later exposure at levels below the TLV. Symptoms which include chest tightening, wheezing, cough or asthmatic attack could be immediate or delayed up to several hours after exposure. Pro-

Type <cr> to continue

tion and could be brought on by contact with very small amounts or as a result of exposure to vapor. Prolonged eye contact with the vapor can result in conjunctivitis.

Once a person is diagnosed as sensitized to TDI no further exposure can be permitted. Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases, recurrent skin eczema or sensitization should be excluded from working with this material.

Carcinogenicity: No carcinogenic activity was observed in lifetime inhalation studies in rats and mice (International Isocyanate Institute).

Note: Toluene Diisocyanate (TDI) has been listed in the NTP Fourth Annual Report on Carcinogens. TDI has been designated as a substance that may "reasonably be anticipated to be carcinogenic" as determined by feeding studies on rodents fed with high oral doses. Furthermore, the International Agency for Research on Cancer (IARC) has used this NTP study to conclude that "there is inadequate evidence for the

## Toxicology Data: TDI

### Acute:

Oral, LD50.....: 5800 mg/kg (Rats)  
Dermal, LD50.....: > 10 g/kg (Rabbits)  
Inhalation, LC50....: 12.7 to 66 ppm for 1-4 hour (Rat)  
Eye effects.....: strongly irritating (rabbits) OECD Guidelines  
Skin effects.....: Corrosive to skin (rabbits) OECD guidelines.  
Sensitization.....: Skin sensitizer in guinea pigs.

Chronic.....: Rats and mice exposed to 0.05 to 0.15 ppm TDI for two years resulted in irritation of the mucous membranes of the respiratory tract (International Isocyanate Institute). In lifetime inhalation studies conducted by Hazelton Labs for the International Isocyanate Institute, TDI did not demonstrate carcinogenic (cancer causing) activity in rats or mice.

### Emergency and First Aid Procedures:

Eyes - flush thoroughly with water for 15 minutes. Get medical attention

Skin - wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes. If

Type <cr> to continue

Ingestion - Do not induce vomiting. Get immediate medical attention.

Inhalation - remove to fresh air. Give oxygen if needed. If not breathing, give mouth to mouth resuscitation. Call a physician.

## Section VII: Spill or Leak Procedures

Steps to be taken in case material is released or spilled:

Contain the spill. Personnel who will be engaged in cleaning up the spill are to be provided with proper respiratory, skin and eye protection. Spills should be covered with vermiculite, sawdust, or other absorbant. Absorbed material should be placed in open containers and treated with water for 24 hours before disposal. Spill area can be washed with 1-2% detergent in a 3-8% Ammonium Hydroxide solution in water. Let stand on affected area for 10 minutes.

Waste Disposal Method: dispose in accordance with State, Local and Federal regulations.

## Section VIII: Special Protection Information

Type <cr> to continue

Respiratory Protection: a NIOSH/MSHA approved organic vapor respirator or self-contained breathing apparatus should be provided during excess or unknown exposures.

Ventilation: work area is to be provided with proper exhaust ventilation to maintain airborne concentrations below TLV.

Protective Gloves: chemical resistant gloves should be worn.

Eye Protection; safety goggles should be worn.

Other Protective Equipment: Water source should be available to wash skin or rinse eyes in case of inadvertant contamination.

## Section IX: Special Precautions

Precautions to be taken in handling and storing. Store in closed containers. Protect from contamination with foreign materials and moisture. Blanket partially used contents with nitrogen.

SECTION 5 ENVIRONMENTAL FATE

PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS This information is unknown (Sections 5.01-5.07)

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) .... (1/M cm) at \_\_\_\_\_ nm  
Reaction quantum yield,  $\phi$  ..... at \_\_\_\_\_ nm  
Direct photolysis rate constant,  $k_p$ , at ... 1/hr \_\_\_\_\_ latitude

b. Oxidation constants at 25°C:

For  $^1O_2$  (singlet oxygen),  $k_{ox}$  ..... 1/M hr  
For  $RO_2$  (peroxy radical),  $k_{ox}$  ..... 1/M hr

c. Five-day biochemical oxygen demand,  $BOD_5$  ... mg/l

d. Biotransformation rate constant:

For bacterial transformation in water,  $k_b$  ... 1/hr  
Specify culture .....

e. Hydrolysis rate constants:

For base-promoted process,  $k_b$  ..... 1/M hr  
For acid-promoted process,  $k_a$  ..... 1/M hr  
For neutral process,  $k_n$  ..... 1

f. Chemical reduction rate (specify conditions) \_\_\_\_\_

g. Other (such as spontaneous degradation) ... \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

## SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

### General Instructions:

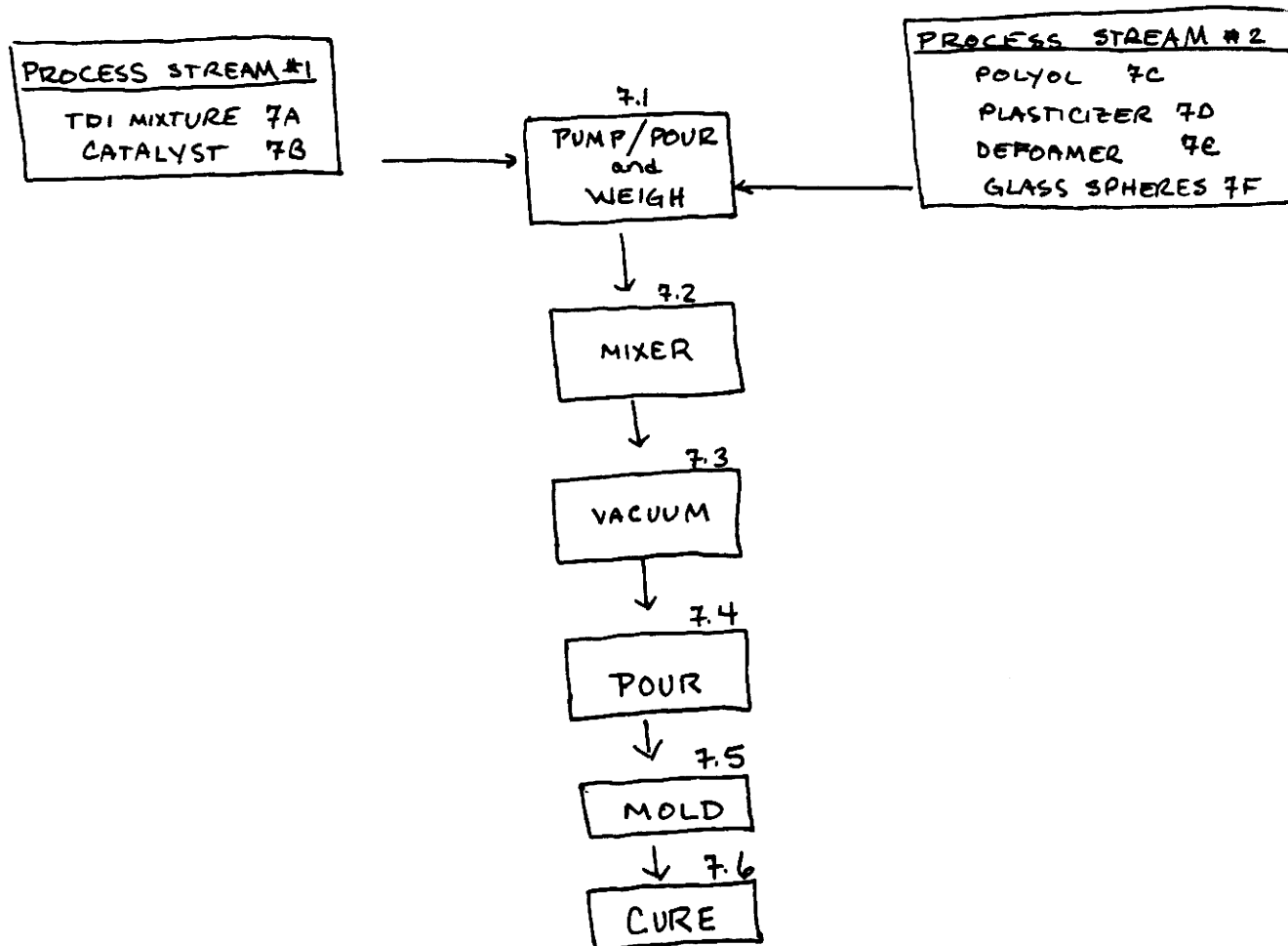
For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

### PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

☐ Process type ..... BLOCK FLOAT PROCESS



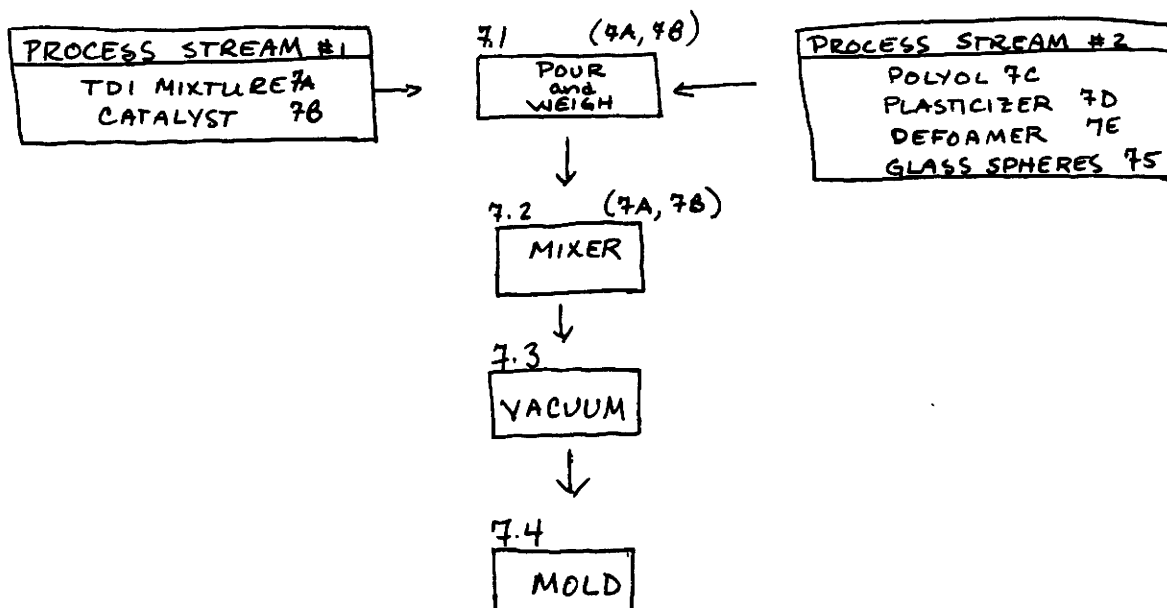
☐ Mark (X) this box if you attach a continuation sheet.



7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI

☐ Process type ..... BLOCK FLOAT PROCESS



☐ Mark (X) this box if you attach a continuation sheet.

7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... FLOTATION BLOCK

<u>Unit Operation ID Number</u>	<u>Typical Equipment Type</u>	<u>Operating Temperature Range (°C)</u>	<u>Operating Pressure Range (mm Hg)</u>	<u>Vessel Composition</u>
<u>7.1</u>	<u>CONTAINERS/SCALES</u>	<u>ROOM TEMP (22°)</u>	<u>760</u>	<u>PAPER</u>
<u>7.2</u>	<u>MIXER</u>	<u>22</u>	<u>760</u>	<u>METAL</u>
<u>7.3</u>	<u>VACUUM TANK</u>	<u>22</u>	<u>29</u>	<u>METAL</u>
<u>7.4</u>	<u>MOLD</u>	<u>22</u>	<u>760</u>	<u>METAL</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

☐ Mark (X) this box if you attach a continuation sheet.

7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... FLOATATION BLOCK

Process Stream ID Code	Process Stream Description	Physical State <sup>1</sup>	Stream Flow (kg/yr)
<u>7A</u>	<u>TDI MIXTURE</u>	<u>OL</u>	<u>33.27</u>
<u>7B</u>	<u>CATALYST</u>	<u>OL</u>	<u>8.60</u>
<u>7C</u>	<u>POLYOL</u>	<u>OL</u>	<u>426.68</u>
<u>7D</u>	<u>PLASTICIZER</u>	<u>OL</u>	<u>360.82</u>
<u>7E</u>	<u>DEFOAMER</u>	<u>OL</u>	<u>6.24</u>
<u>7F</u>	<u>GLASS SPHERES</u>	<u>SO</u>	<u>157.50</u>

<sup>1</sup>Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure)  
 SO = Solid  
 SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☐ Mark (X) this box if you attach a continuation sheet.

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

☐ Process type ..... FLOTATION BLOCK

a.	b.	c.	d.	e.
Process Stream ID Code	Known Compounds <sup>1</sup>	Concentrations <sup>2,3</sup> (%) or ppm	Other Expected Compounds	Estimated Concentrations (%) or ppm
7A	2,4-TDI	<14	NONE	NA
	PREPOLYMER	786		
7B	DIBUTYLIN DILAURATE	795	UNKNOWN	45
7C	CASTOR OIL	100	NONE	NA

7.06 continued below

7D	DIOCTYL PHTHALATE	100	NONE	NA
7E	ACRYLATE POLYMER	40	TOLUENE	2-5
	PETROLEUM SOLVENT	60	2-ETHYLHEXYL ACRYLATE	2-3
7F	GLASS SPHERES	100	NONE	NA
	AMORPHOUS SILICA			

☐ Mark (X) this box if you attach a continuation sheet.

7.06 (continued) Not applicable

<sup>1</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

<u>Additive Package Number</u>	<u>Components of Additive Package</u>	<u>Concentrations (% or ppm)</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		

<sup>2</sup>Use the following codes to designate how the concentration was determined:

A = Analytical result

E = Engineering judgement/calculation

<sup>3</sup>Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

☐ Mark (X) this box if you attach a continuation sheet.

**PART A RESIDUAL TREATMENT PROCESS DESCRIPTION**

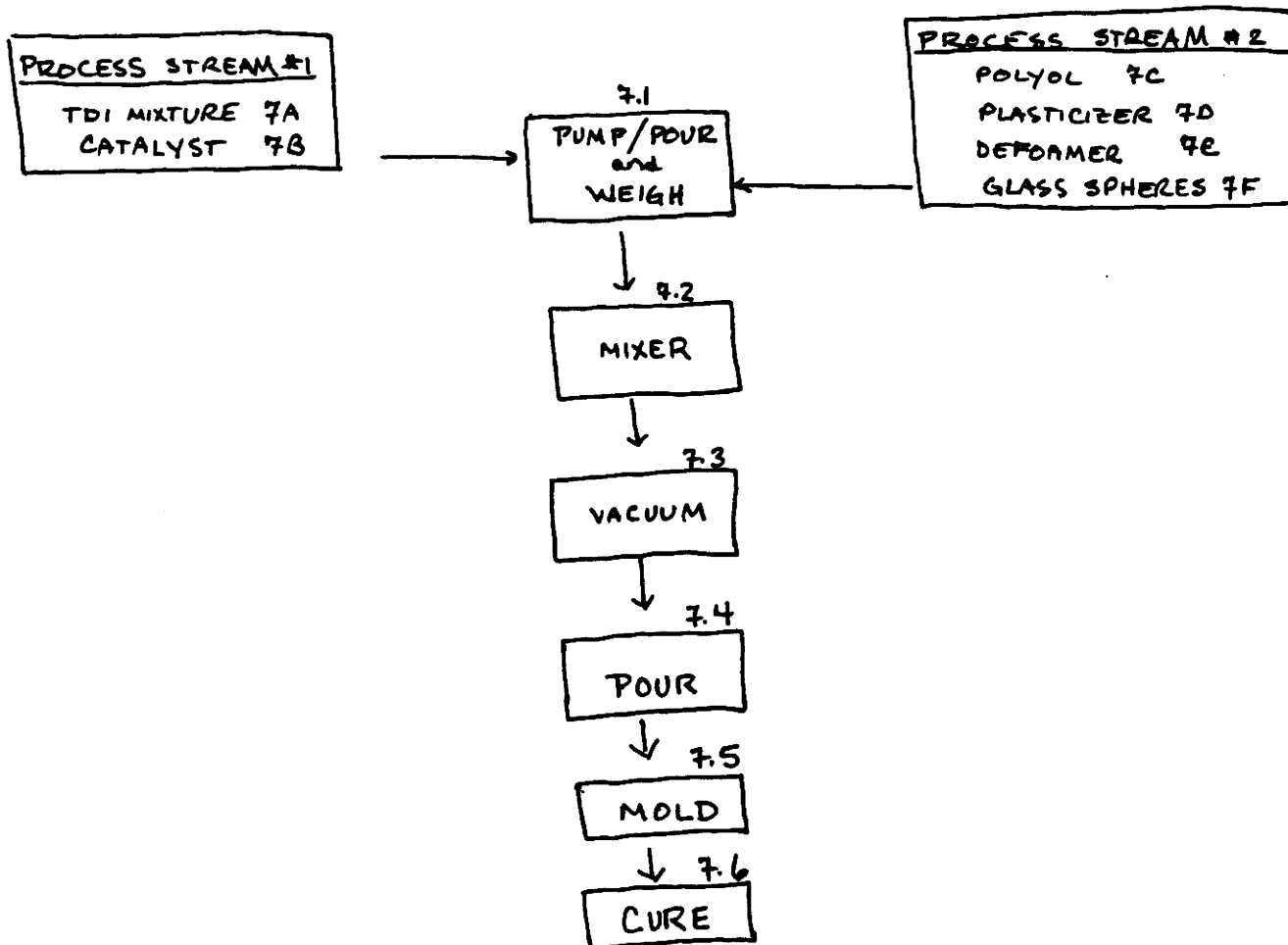
This section does not apply to the floatation block process (pages 50 - 58)

8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

☐ Process type ..... BLOCK FLOAT PROCESS

The floatation blocks are processed based on customer request only. Only the required amount of the respective process streams are weighed for block production. No waste streams or residuals are generated with the exception of empty containers.



☐ Mark (X) this box if you attach a continuation sheet.

# PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

☐

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Age at hire	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Work history of individual before employment at your facility	<u>X</u>	<u>X</u>	<u>1978</u>	<u>7</u>
Sex	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Race	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Job titles	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Start date for each job title	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
End date for each job title	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Work area industrial hygiene monitoring data	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Personal employee monitoring data	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Employee medical history	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Employee smoking history	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Accident history	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Retirement date	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Termination date	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Vital status of retirees	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>
Cause of death data	<u>X</u>	<u>X</u>	<u>1978</u>	<u>11</u>

☐ Mark (X) this box if you attach a continuation sheet.

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a. Activity	b. Process Category	c. Yearly Quantity (kg)	d. Total Workers	e. Total Worker-Hours
Manufacture of the listed substance	Enclosed	NA	NA	NA
	Controlled Release	NA	NA	NA
	Open	NA	NA	NA
On-site use as reactant	Enclosed	NA	NA	NA
	Controlled Release	NA	NA	NA
	Open	33.27	3	1653
On-site use as nonreactant	Enclosed	NA	NA	NA
	Controlled Release	NA	NA	NA
	Open	NA	NA	NA
On-site preparation of products	Enclosed	NA	NA	NA
	Controlled Release	NA	NA	NA
	Open	46.27	3	39

DB 39

29 days x 19 hrs x  
3 men = 1653

UG-36/DB-39

12 days + 1 day  
x 3 x 1 hour

39 hours

☐ Mark (X) this box if you attach a continuation sheet.



9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

☐

Labor Category

Descriptive Job Title

A

PRODUCTION SUPERVISOR

B

PRODUCTION TECHNICIAN

C

D

E

F

G

H

I

J

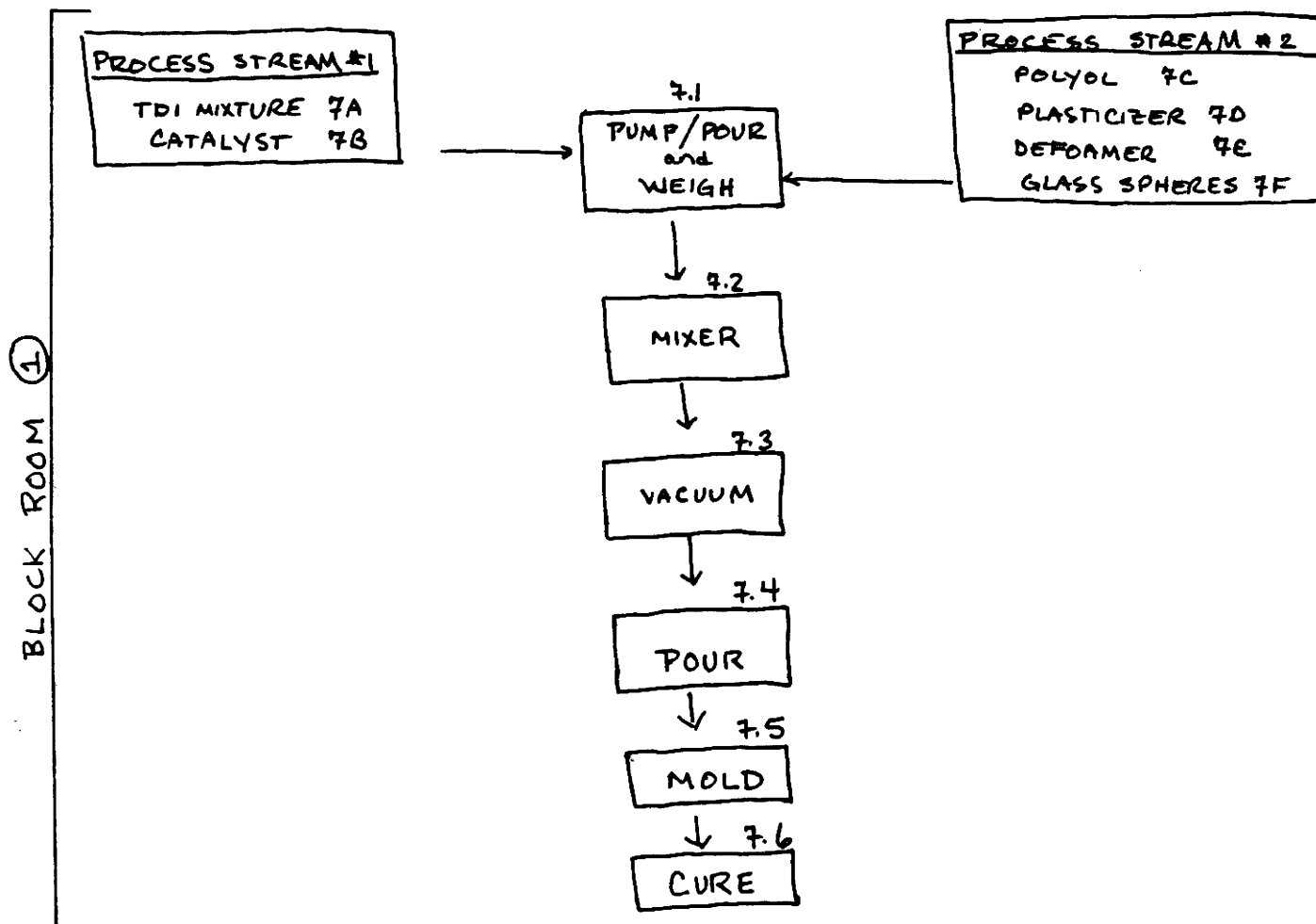
☐ Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

☐ Process type ..... FLOATATION BLOCK

☐ Process type ..... BLOCK FLOAT PROCESS



☐ Mark (X) this box if you attach a continuation sheet.

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... FLOATATION BLOCK

Work Area ID

Description of Work Areas and Worker Activities

1	<u>BLOCK ROOM. WORKERS WEIGH, MIX, AND CURE BLOCKS.</u>
2	<u></u>
3	<u></u>
4	<u></u>
5	<u></u>
6	<u></u>
7	<u></u>
8	<u></u>
9	<u></u>
10	<u></u>

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

☐ Process type ..... FLOATATION BLOCK

Work area ..... 1

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
<u>A,B</u>	<u>3</u>	<u>skin contact</u>	<u>OL</u>		<u>4</u>
<u>A,B</u>	<u>3</u>	<u>inhalation</u>	<u>OL</u>	<u>E</u>	<u>4</u>

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)  
 SO = Solid

SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

A = 15 minutes or less  
 B = Greater than 15 minutes, but not exceeding 1 hour  
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours  
 E = Greater than 4 hours, but not exceeding 8 hours  
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

NA. TWA's have not been measured.

[ ]

Work area .....

☐ Mark (X) this box if you attach a continuation sheet.

**PART B WORK PLACE MONITORING PROGRAM**

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI TDI has not been monitored in the workplace.

☐

<u>Sample/Test</u>	<u>Work Area ID</u>	<u>Testing Frequency (per year)</u>	<u>Number of Samples (per test)</u>	<u>Who Samples<sup>1</sup></u>	<u>Analyzed In-House (Y/N)</u>	<u>Number of Years Records Maintained</u>
Personal breathing zone						
General work area (air)						
Wipe samples						
Adhesive patches						
Blood samples						
Urine samples						
Respiratory samples						
Allergy tests						
Other (specify)						
Other (specify)						
Other (specify)						

<sup>1</sup>Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist

B = Insurance carrier

C = OSHA consultant

D = Other (specify) \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

<input type="checkbox"/>	Sample Type	Sampling and Analytical Methodology
	Not applicable	

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

<input type="checkbox"/>	Equipment Type <sup>1</sup>	Detection Limit <sup>2</sup>	Manufacturer	Averaging Time (hr)	Model Number
	Not applicable				

<sup>1</sup>Use the following codes to designate personal air monitoring equipment types:

- A = Passive dosimeter
- B = Detector tube
- C = Charcoal filtration tube with pump
- D = Other (specify) \_\_\_\_\_

Use the following codes to designate ambient air monitoring equipment types:

- E = Stationary monitors located within work area
- F = Stationary monitors located within facility
- G = Stationary monitors located at plant boundary
- H = Mobile monitoring equipment (specify) \_\_\_\_\_
- I = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate detection limit units:

- A = ppm
- B = Fibers/cubic centimeter (f/cc)
- C = Micrograms/cubic meter ( $\mu/m^3$ )

☐ Mark (X) this box if you attach a continuation sheet.

9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

☐

Test Description

Frequency  
(weekly, monthly, yearly, etc.)

Not applicable. Medical  
monitoring not conducted for TDI.

☐ Mark (X) this box if you attach a continuation sheet.



PART C ENGINEERING CONTROLS

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... FLOATATION BLOCK

Work area ..... 1

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>N</u>	<u>          </u>	<u>          </u>	<u>          </u>
General dilution	<u>N</u>	<u>          </u>	<u>          </u>	<u>          </u>
Other (specify)				
<u>Make-Up Air</u>	<u>Y</u>	<u>1988</u>	<u>N</u>	<u>N</u>
Vessel emission controls	<u>N</u>	<u>          </u>	<u>          </u>	<u>          </u>
Mechanical loading or packaging equipment	<u>N</u>	<u>          </u>	<u>          </u>	<u>          </u>
Other (specify)				
<u>                                  </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

☐ Mark (X) this box if you attach a continuation sheet.

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

N.A. NO MODIFICATIONS MADE.

☐ Process type ..... FLOATATION BLOCK

Work area ..... 1

Equipment or Process Modification	Reduction in Worker Exposure Per Year (%)
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

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PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

---

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... FLOATATION BLOCK

Work area ..... 1

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>N</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>N</u>
Coveralls	<u>Y</u>
Bib aprons	<u>N</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

---

[ ] Mark (X) this box if you attach a continuation sheet.

---

9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

NA Sections 9.15-9.17 DO NOT APPLY.

☐ Process type ..... \_\_\_\_\_

<u>Work Area</u>	<u>Respirator Type</u>	<u>Average Usage<sup>1</sup></u>	<u>Fit Tested (Y/N)</u>	<u>Type of Fit Test<sup>2</sup></u>	<u>Frequency of Fit Tests (per year)</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate average usage:

A = Daily  
 B = Weekly  
 C = Monthly  
 D = Once a year  
 E = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate the type of fit test:

QL = Qualitative  
 QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

- 9.18 For each type of personal protective clothing and safety equipment used when working with the listed substance, indicate whether you have conducted a permeation test on the clothing or equipment for the listed substance.

<u>Clothing and Equipment</u>	<u>Permeation Tests Conducted</u> <u>(Y/N)</u>
Coveralls	N
Bib apron	N
Gloves	N
Other (specify)	

☐ Mark (X) this box if you attach a continuation sheet.

## PART E WORK PRACTICES

- 9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this question and complete it separately for each process type and work area.

CBI

☐

Process type ..... FLOTATION BLOCK

Work area ..... 1

RIGHT-TO-KNOW TRAINING PROGRAM

- 9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... FLOTATION BLOCK

Work area ..... 1

<u>Housekeeping Tasks</u>	<u>Less Than Once Per Day</u>	<u>1-2 Times Per Day</u>	<u>3-4 Times Per Day</u>	<u>More Than 4 Times Per Day</u>
Sweeping		<u>X</u>		
Vacuuming				
Water flushing of floors				
Other (specify)				

☐ Mark (X) this box if you attach a continuation sheet.

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes ..... 1

☒ No ..... (2)

Emergency exposure

Yes ..... 1

☒ No ..... (2)

If yes, where are copies of the plan maintained?

Routine exposure: \_\_\_\_\_

Emergency exposure: \_\_\_\_\_

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes ..... 1

☒ No ..... PLAN IS GENERAL FOR ALL LEAKS AND SPILLS ..... (2)

If yes, where are copies of the plan maintained? HEALTH & SAFETY OFFICE

Has this plan been coordinated with state or local government response organizations? Circle the appropriate response.

☒ Yes ..... (1)

No ..... 2

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist ..... (1)

Insurance carrier ..... 2

OSHA consultant ..... 3

Other (specify) \_\_\_\_\_ ..... 4

☐ Mark (X) this box if you attach a continuation sheet.

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## SECTION 10 ENVIRONMENTAL RELEASE

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### General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

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### PART A GENERAL INFORMATION

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10.01 Where is your facility located? Circle all appropriate responses.

#### CBI

- ☐ Industrial area ..... ①
- Urban area ..... 2
- Residential area ..... ③
- Agricultural area ..... 4
- Rural area ..... 5
- Adjacent to a park or a recreational area ..... 6
- Within 1 mile of a navigable waterway ..... ⑦
- Within 1 mile of a school, university, hospital, or nursing home facility ..... 8
- Within 1 mile of a non-navigable waterway ..... 9
- Other (specify) \_\_\_\_\_ ..... 10

☐ Mark (X) this box if you attach a continuation sheet.



10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude ..... W 71 ° 09 ' 23 "

Longitude ..... N 42 ° 09 ' 28 "

UTM coordinates ..... Zone \_\_\_\_\_, Northing 46 313 690, Easting 3 813 21

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation ..... 42 inches/year

Predominant wind direction ..... SOUTH WEST

10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater ..... 1-3 meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of CBI Y, N, and NA.)

☐

On-Site Activity	Environmental Release		
	Air	Water	Land
Manufacturing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Importing	<u>NA</u>	<u>NA</u>	<u>NA</u>
Processing	<u>Y</u>	<u>NA</u>	<u>NA</u>
Otherwise used	<u>NA</u>	<u>NA</u>	<u>NA</u>
Product or residual storage	<u>N</u>	<u>NA</u>	<u>NA</u>
Disposal	<u>NA</u>	<u>NA</u>	<u>NA</u>
Transport	<u>N</u>	<u>NA</u>	<u>NA</u>

☐ Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... FLOATATION BLOCK  
NO CONTROL TECHNOLOGIES IN PLACE AT THIS TIME

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>

☐ Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

- 10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI

☐

Process type ..... NOT APPLICABLE, EMISSIONS ARE FUGITIVE ONLY.

Point Source  
ID Code

Description of Emission Point Source

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics - - Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table. NOT APPLICABLE.

CBI

☐

Point Source ID Code	Physical State <sup>1</sup>	Average Emissions (kg/day)	Frequency <sup>2</sup> (days/yr)	Duration <sup>3</sup> (min/day)	Average Emission Factor <sup>4</sup>	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)

<sup>1</sup>Use the following codes to designate physical state at the point of release:

G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) \_\_\_\_\_

<sup>2</sup>Frequency of emission at any level of emission

<sup>3</sup>Duration of emission at any level of emission

<sup>4</sup>Average Emission Factor — Provide estimated ( $\pm$  25 percent) emission factor (kg of emission per kg of production of listed substance)

10.11 Stack Parameters -- Identify the stack parameters for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

☐

Point Source ID Code	Stack Height(m)	Stack Inner Diameter (at outlet) (m)	Exhaust Temperature (°C)	Emission Exit Velocity (m/sec)	Building Height(m) <sup>1</sup>	Building Width(m) <sup>2</sup>	Vent, Type <sup>3</sup>
NA							

<sup>1</sup>Height of attached or adjacent building

<sup>2</sup>Width of attached or adjacent building

<sup>3</sup>Use the following codes to designate vent type:

H = Horizontal

V = Vertical

☐ Mark (X) this box if you attach a continuation sheet.

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09. Photocopy this question and complete it separately for each emission point source.

CBI

☐

Point source ID code ..... NA

Size Range (microns)

Mass Fraction (% ± % precision)

< 1

≥ 1 to < 10

≥ 10 to < 30

≥ 30 to < 50

≥ 50 to < 100

≥ 100 to < 500

≥ 500

Total = 100%

☐ Mark (X) this box if you attach a continuation sheet.

10.16 Raw Material, Intermediate and Product Storage Emissions - - Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

CBI

☐

Vessel Type <sup>1</sup>	Floating Roof Seals <sup>2</sup>	Composition of Stored Materials <sup>3</sup>	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Vessel Volume (l)	Operating Vessel Emission Controls <sup>4</sup>	Design Flow Rate <sup>5</sup>	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate <sup>6</sup>
NA													

<sup>1</sup>Use the following codes to designate vessel type:

- F = Fixed roof
- CIF = Contact internal floating roof
- NCIF = Noncontact internal floating roof
- EFR = External floating roof
- P = Pressure vessel (indicate pressure rating)
- H = Horizontal
- U = Underground

<sup>2</sup>Use the following codes to designate floating roof seals:

- MS1 = Mechanical shoe, primary
- MS2 = Shoe-mounted secondary
- MS2R = Rim-mounted, secondary
- LM1 = Liquid-mounted resilient filled seal, primary
- LM2 = Rim-mounted shield
- LMW = Weather shield
- VM1 = Vapor mounted resilient filled seal, primary
- VM2 = Rim-mounted secondary
- VMW = Weather shield

<sup>3</sup>Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

<sup>4</sup>Other than floating roofs

<sup>5</sup>Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

<sup>6</sup>Use the following codes to designate basis for estimate of control efficiency:

- C = Calculations
- S = Sampling

---

**PART E NON-ROUTINE RELEASES**

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10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

<u>Release</u>	<u>Date Started</u>	<u>Time (am/pm)</u>	<u>Date Stopped</u>	<u>Time (am/pm)</u>
<u>1</u>	<u>NA</u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>3</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>4</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>5</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>6</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

---

10.24 Specify the weather conditions at the time of each release.

<u>Release</u>	<u>Wind Speed (km/hr)</u>	<u>Wind Direction</u>	<u>Humidity (%)</u>	<u>Temperature (°C)</u>	<u>Precipitation (Y/N)</u>
<u>1</u>	<u>NA</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>3</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>4</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>5</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>6</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

---

☐ Mark (X) this box if you attach a continuation sheet.

---



# PART C FUGITIVE EMISSIONS

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... FLOATATION BLOCK  
 Percentage of time per year that the listed substance is exposed to this process type ..... 41.8 %

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					Greater than 99%
	Less than 5%	5-10%	11-25%	26-75%	76-99%	
Pump seals <sup>1</sup>						
Packed	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>
Mechanical	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Double mechanical <sup>2</sup>	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Compressor seals <sup>1</sup>	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Flanges	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Valves						
Gas <sup>3</sup>	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Liquid	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Pressure relief devices <sup>4</sup> (Gas or vapor only)	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Sample connections						
Gas	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Liquid	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Open-ended lines <sup>5</sup> (e.g., purge, vent)						
Gas	<u>NA</u>	<u>←-----→</u>				<u>NA</u>
Liquid	<u>NA</u>	<u>←-----→</u>				<u>NA</u>

<sup>1</sup>List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐ Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

<sup>2</sup>If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

<sup>3</sup>Conditions existing in the valve during normal operation

<sup>4</sup>Report all pressure relief devices in service, including those equipped with control devices

<sup>5</sup>Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c. *NOT APPLICABLE*

CBI

☐

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel <sup>1</sup>	c. Control Device	d. Estimated Control Efficiency <sup>2</sup>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

<sup>1</sup>Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

<sup>2</sup>The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

FLOATATION BLOCK -

☐

Process type.....

NOT APPLICABLE

Equipment Type	Leak Detection	Detection Device <sup>1</sup>	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
	Concentration (ppm or mg/m <sup>3</sup> ) Measured at _____ Inches from Source				
Pump seals					
Packed	_____	_____	_____	_____	_____
Mechanical	_____	_____	_____	_____	_____
Double mechanical	_____	_____	_____	_____	_____
Compressor seals	_____	_____	_____	_____	_____
Flanges	_____	_____	_____	_____	_____
Valves					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____
Pressure relief devices (gas or vapor only)	_____	_____	_____	_____	_____
Sample connections					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____
Open-ended lines					
Gas	_____	_____	_____	_____	_____
Liquid	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) \_\_\_\_\_

☐

Mark (X) this box if you attach a continuation sheet.

**Polyfibron Division**

W. R. Grace & Co.  
55 Hayden Avenue  
Lexington, Mass. 02173

# GRACE

168-10

Attn: CAIR Reporting Office  
Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street  
Washington, D.C. 20460

